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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,315	07/14/2003	Moshe Rosenberg	309J-000310US	7949
22798	7590	10/20/2006	EXAMINER	
QUINE INTELLECTUAL PROPERTY LAW GROUP, P.C. P O BOX 458 ALAMEDA, CA 94501			MERCIER, MELISSA S	
			ART UNIT	PAPER NUMBER
			1615	

DATE MAILED: 10/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/620,315

Applicant(s)

ROSENBERG ET AL.

Examiner

Melissa S. Mercier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) 27-66 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12-8-03, 4-11-06</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Group I in the reply filed on August 1, 2006 is acknowledged. The traversal is on the ground(s) that searching all claims is not a serious search burden. This is not found persuasive because the groupings as outlined by the examiner are distinct inventions, which would require different searches of the prior art.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-66 are pending in this application, Claims 27-66 have been withdrawn from consideration. Claims 1-26 are rejected.

### ***Priority***

Acknowledgement of Applicants claim to Priority to Provisional Application 60/400,938 is made.

### ***Information Disclosure Statement***

Receipt of the Information Disclosure Statements received on December 18, 2003 and April 11, 2006 is acknowledged.

### ***Claim Objections***

Claim 16 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 16 does not provide

any further limitation to claim 1. The recitation of a property is not considered a limitation.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1, 7, 11, 16, 19, and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 1, Applicant has not provided a definition for the term "matrix". The commonly accepted meaning of a matrix is a continuous solid phase in which particles are embedded. It is unclear to the examiner what applicant is claiming as a continuous phase aqueous matrix. Clarification is requested.

It is also unclear to the examiner what applicant's intended meaning of protected against constitutes. Clarification is requested.

Applicant is additionally requested to provide clarification as to the scope of the term "removal". It is unclear to the examiner what is being removed and from where it is being removed.

Claim 7 recites the limitation "filler phase" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in

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the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed.

Cir. 1999). The term "oil" in claim 11 is used by the claim to include "seeds, algae, yeasts, and protozoa's", while the accepted meaning is "lipids". The term is indefinite because the specification does not clearly redefine the term. The referenced examples are not oils.

Claim 16 is indefinite for failing to disclose what conditions the continuous phase matrix is resistant too. Clarification is requested. The examiner is interpreting the conditions to be any negative condition the ruminant would be exposed to.

Claim 19 is indefinite for failing to disclose the relationship of cross-linking between the proteins and the reducing sugars. It is unclear to the examiner is applicant is claiming the reducing sugars are the cross linkers or if the reducing sugars are acting as catalyst in the formation of the cross-links. Clarification is requested.

The term "predominantly" in claim 21 is a relative term, which renders the claim indefinite. The term "predominantly" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Clarification as to the intended scope of predominantly is requested.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 8, 11-12, 13-16, 20-23, and 25-26 are rejected under 35

U.S.C. 102(b) as being anticipated by Rawlings et al. (US Patent 4,216,234).

Rawlings teaches "a particulate composition which can be used as a food additive for animals, which comprises microencapsulated lip<sup>id</sup>s in albumin. The composition can be fed to ruminant animals which will preclude the bio-degradation of the majority of the nutrients in the rumen compartment of the stomach and provide manipulation of the site and form an assimilation of the nutrients by the ruminant" (abstract). The composition is heated to form a gel. Gel is defined to mean "a cross-linked three dimensional network of fibers of albumin and other proteinaceous material which binds the water and the lipid within the network" (column 4, lines 8-12).

Rawlings discloses "a nutrient lipid is admixed with the aqueous medium of animal blood such as by homogenization or forming an emulsion under emulsion forming conditions" (column 4, lines 21-24).

Regarding Claims 2-3, 8 and 11, the nutrient lipid can include "vegetable oils from soybeans, peanuts, sunflowers, safflowers, cotton seeds, maize, and rape or animal fats derived from fish, fowls, or pigs" (column 4, lines 31-40). Additionally, example 1 discloses the presence of polyunsaturated fatty acids. (column 8, lines 27-28).

Regarding Claim 4, Rawlings discloses, "delactosed whey powder was blended into an aqueous soybean oil mixture" (column 10, lines 54-55). The Examiner is

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interpreting this method step to mean the whey protein was dissolved in the continuous aqueous phase.

Regarding Claims 5-6, "the lipid is dispersed within the aqueous medium in globules having a size of less than 0.1 millimeters and most preferably of a size in the order of 0.5 to 10 microns" (column 4, lines 24-27).

Regarding Claim 12, Rawlings discloses "the rumen bypass is best exemplified by microencapsulating a polyunsaturated vegetable oil having a high level of C18:2 (linoleic fatty acid). This fatty acid with normally degrade and predominantly hydrogenate forming lower chain saturated fatty acids when exposed to the normal rumen digestive process" (column 7, lines 15-21).

Regarding Claim 13, Rawlings discloses, "the pH of the aqueous solutions of animal blood is adjusted to a range of 9.6-12.5, which forms an emulsion (column 3, lines 14-16). It is the examiners position that the pH'ing agent is therefore an emulsifier.

Regarding Claim 14, Rawlings discloses a method for the preparation of a gel. Rawlings teaches, "after the lipid and aqueous medium containing animal blood dispersion or emulsion is formed, the proteinaceous material is heated to form a gel. The heating of the dispersion or emulsion is believed to result in denaturizing of the proteinaceous material" (column 5, lines 21-24).

Regarding Claim 15, Rawlings defines albumin to be "a protein found in milk whey and occurring in blood, lymph, chyle, and may other animal and vegetable tissues and fluids" (column 3, lines 55-56).

Regarding Claim 16, Rawlings discloses “the nutrient lipid microencapsulated in albumin containing proteinaceous material which when ingested by a ruminant, protects the nutrients from degradation in the rumen of the animal but allows the nutrients to be assimilated with the abomasums and lower gut to thereby allow for a manipulation of the site and form of the nutrients and also render possible the effective feeding of increased amounts of lipid to the ruminant without effecting a gastric upset” (column 1, lines 15-24).

Regarding Claims 20-21, Rawlings teaches, “heating the dispersion or emulsion comprising globules of lipids at a temperature effective to form a lipid encapsulated gel” (column 3, lines 3-6). This heating induces the formation of cross-linking between the albumin proteins.

Regarding Claims 22-23, Rawlings discloses, “blood collected from operations at slaughterhouses or meat packing plants can vary in blood solid contents dependent on the amount of dilution it receives from the wash water used on the kill floor, however, a solids content of from about 12% to about 21% normal for the aqueous blood mixture. Such solids content is believed to comprise about 50-60% albumin and 40-50% other blood proteins” (column 3, lines 63-68, column 4, lines 1-4).

Regarding Claim 25, Rawlings example I discloses “400 lbs of an aqueous blood containing medium containing 16% by weight blood solids” (column 7, lines 48-50) was used utilized in the preparation of a blood-corn oil mixture. It is the examiners position that the aqueous blood mixture would contain water and blood; therefore, the mixture would contain approximately 84% water.



Regarding Claim 26, Rawlings examples I-V, comprise sodium and calcium sources.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 9-10, 17-19 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rawlings et al. (US Patent 4,216,234) in view of Richardson (US Patent 5,143,737).

Rawlings teachings as they apply to Claim 1 are discussed above and applied in the same manner.

Rawlings does not teach a lipid containing 10-50% conjugated linoleic acid or the use of reducing sugars.

Richardson teaches a lipid encapsulated feed supplement and process for making the same.

Regarding Claims 9-10, the Richardson and Rawlings references are silent as to the whether the linoleic acid used in their compositions is conjugated or not. Conjugated linoleic acid is found in dairy products and meat sources. Rawlings and Richardson both teach the use of whey protein, which is a dairy product.

Regarding Claims 17-19 and 24, Richardson teaches, "an unsaturated lipid is encapsulated with protein, such as whey protein concentrate with includes the reducing sugar lactose, preparing an emulsion of the encapsulating agent, combining and mixing the food and the emulsion, maintaining the emulsion, naturally cross linking the emulsion and recovering the encapsulated food. Preferably the food is a mono- or polyunsaturated lipid, or an unsaturated animal or vegetable fat or oil. Especially useful are compositions of oleic acid, linoleic acids and mixtures thereof" (column 5, lines 37-53).

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It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined the teachings of Rawlings with the teachings of Richardson in order to obtain a cattle feed composition capable of "providing a higher level of unsaturated fat and less saturated fat" (Richardson abstract). Richardson additionally teaches "protection of unsaturated dietary fat from the digestive action of the rumen microbes found in the digestive tract of ruminant animals is primarily advantageous because the polyunsaturated fats are liberated for absorption and transfer to the milk resulting in increased polyunsaturated fatty acid content. It also provides a higher energy density feed source" (Richardson, column 3, lines 1-10).

The applicant would have a reasonable expectation of success for preparing a composite gel suitable for ruminant ingestion, because both the Rawlings and Richardson patents teach a composition for the same purpose.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa S. Mercier whose telephone number is (571) 272-9039. The examiner can normally be reached on 7:30am-4pm Mon through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward can be reached on (571) 272-8373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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